We claim:

1. An isolated nucleic acid comprising a nucleotide sequence having at least 85% sequence identity to SEQ ID NO:1.

2. An isolated nucleic acid comprising the nucleotide sequence of SEQ ID NO:1.

3. An isolated nucleic acid encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or a polypeptide having at least 80% sequence identity to SEQ ID NO:2.

4. A vector comprising the nucleic acid molecule of any one of claims 1 – 3.

5. A cell comprising the vector of claim 4.

6. The cell of claim 5, wherein the cell is selected from mammalian, prokaryotic and insect cells.

7. A purified polypeptide comprising an amino acid sequence having at least 85% sequence identity to SEQ ID NO:2.

8. The purified polypeptide of claim 12, wherein the amino acid sequence comprises SEQ ID NO:2.

9. A method for producing a polypeptide comprising:
   a) culturing a cell expressing a nucleic acid comprising a nucleotide sequence having at least 85% sequence identity to SEQ ID NO:1; and
   b) isolating the polypeptide.

10. The method of claim 9, wherein the nucleic acid comprises SEQ ID NO:1.

11. A method for producing a polypeptide comprising:

a) culturing a cell expressing a nucleic acid comprising a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or a polypeptide having at least 85% sequence identity to SEQ ID NO:2; and

b) isolating the polypeptide.

12. A method for identifying compounds that modulate G protein coupled receptor (GPCR) activity comprising:

a) providing a GPCR and a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or a polypeptide having at least 80% sequence identity to SEQ ID NO:2;

b) contacting the GPCR with a test compound; and

c) determining GPCR activity, wherein a change in GPCR activity in the presence of said compound as compared with GPCR activity in the absence of said compound indicates that said compound modulates GPCR activity.

13. The method of claim 12, wherein the GPCR is a Gs coupled GPCR.

14. The method of claim 12, wherein the GPCR is selected from dopamine receptor D1, adenosine A2a receptor, and adrenergic β2 receptor.

15. The method of claim 12, wherein the GPCR and the polypeptide are provided as cells expressing the GPCR and the polypeptide, or are provided as membranes prepared from said cells.

16. The method of claim 15, wherein the cells are selected from mammalian, prokaryotic and insect cells.

17. The method of claim 16, wherein GPCR activity is determined by detecting intracellular phospholipase C (PLC) activity, phospholipase A (PLA) activity, adenylyl cyclase activity, cAMP levels, MAP kinase activity, GDP-GTP exchange, intracellular concentration of calcium in the cell, or opening and closing of ion channels.

18. The method of claim 16, wherein GPCR activity is determined by detecting GDP-GTP exchange.

19. The method of claim 18, wherein GDP-GTP exchange is determined by GTPγS binding or Eu-GTP binding.

20. The method of claim 16, wherein the GPCR is contacted with a ligand.

21. A method for identifying compounds that inhibit G protein coupled receptor (GPCR) activity comprising:

a) providing a GPCR, a GPCR ligand, and a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or a polypeptide having at least 80% sequence identity to SEQ ID NO:2;

b) contacting the GPCR with a test compound; and

c) determining GPCR activity, wherein a decrease in GPCR activity in the presence of said compound as compared with GPCR activity in the absence of said compound indicates that said compound inhibits GPCR activity.

22. A method for identifying G protein coupled receptor (GPCR) positive modulators comprising:

a) providing a GPCR, a GPCR ligand, and a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or a polypeptide having at least 80% sequence identity to SEQ ID NO:2;

b) contacting the GPCR with a test compound; and

c) determining GPCR activity, wherein an increase in GPCR activity in the presence of said compound as compared with GPCR activity in the absence of said compound indicates that said compound is a positive modulator of the GPCR.

23. A method for identifying compounds that activate a G protein coupled receptor (GPCR) comprising:

a) providing a GPCR and a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or a polypeptide having at least 80% sequence identity to SEQ ID NO:2;

b) contacting the GPCR with a test compound; and

c) determining GPCR activity, wherein an increase in GPCR activity in the presence of said compound as compared with GPCR aotivity in the absence of said compound indicates that said compound activates the GPCR.

24. A method for identifying compounds that inhibit baseline G protein coupled receptor (GPCR) activity comprising:

a) providing a GPCR and a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or a polypeptide having at least 80% sequence identity to SEQ ID NO:2;

b) contacting the GPCR with a test compound; and

c) determining GPCR activity, wherein a decrease in GPCR activity in the presence of said compound as compared with GPCR activity in the absence of said compound indicates that said compound inhibits GPCR activity.

25. A method for identifying compounds that modulate G protein coupled receptor (GPCR) activity comprising:

a) providing a GPCR and a polypeptide comprising the amino acid sequence of SEQ ID NO:6, or a polypeptide having at least 80% sequence identity to SEQ ID NO:6;

b) contacting the GPCR with a test compound; and

c) determining GPCR activity, wherein a change in GPCR activity in the presence of said compound as compared with GPCR activity in the absence of said compound indicates that said compound modulates GPCR activity.